

NC Department of Health and Human Services

North Carolina Communicable Disease Data Dashboard: An Introduction

Zachary Faigen, MSPH

India Solomon, PHAP

Thursday, July 19, 2018

Objectives

- The old way of displaying communicable disease data
- Why we made the switch to an interactive data dashboard
- Features of the new dashboard
- Reviews from users
- Demonstration of the dashboard

The Old Way

- Multiple static tables
- Data by county was not always available
- Data was not analyzable
- No way to visualize data

The screenshot shows an Excel spreadsheet titled "Communicable Disease Counts for 2017, by Month and Disease Group". The spreadsheet is in Protected View. The data is organized into columns: Disease (A), Number of Cases in December, 2017 (B), Number of Cases January-December, 2017 (C), Average Number of Cases January-December, 2012-2016 (D), Number of Cases in 2016 (E), and Average Number of January-December 2017 Cases Per Year, 2012-2016 (F). A seventh column (G) contains a comparison: "How does the number of January-December 2017 cases compare to January-December 2012-2016?". The spreadsheet lists 31 diseases, including Anthrax, Botulism, Brucellosis, Campylobacter Infection, Chikungunya, Cholera, Creutzfeldt-Jakob Disease, Cryptosporidiosis, Cyclosporiasis, Dengue, E. coli 0157:H7/STEC Infection, Ehrlichiosis, Encephalitis, Foodborne infections, Haemophilus influenzae, Hantavirus, Hemolytic Uremic Syndrome, Hemorrhagic Fever Virus infection, Hepatitis A, Hepatitis C - Acute, and Influenza death (<18 years old).

Disease	Number of Cases in December, 2017	Number of Cases January-December, 2017	Average Number of Cases January-December, 2012-2016	Number of Cases in 2016	Average Number of January-December 2017 Cases Per Year, 2012-2016	How does the number of January-December 2017 cases compare to January-December 2012-2016?
1 Anthrax	0	0	0	0	0	
2 Botulism ¹	0	1	1	0	1	
3 Brucellosis	0	0	2	0	2	
4 Campylobacter Infection	67	1758	1080	1467	1080	
5 Chikungunya	1	3	7	3	7	
6 Cholera	0	0	0	0	0	
7 Creutzfeldt-Jakob Disease	0	6	18	12	18	
8 Cryptosporidiosis	7	203	193	295	193	
9 Cyclosporiasis	0	63	3	7	3	HIGHER
10 Dengue	0	1	10	13	10	LOWER
11 E. coli 0157:H7/STEC Infection	2	68	89	79	89	
12 Ehrlichiosis ²	2	79	97	78	97	
13 Encephalitis, Arboviral Other	0	0	0	1	0	
14 Encephalitis, California group (e.g. Lacroisse)	0	20	16	8	16	
15 Encephalitis, Eastern Equine	0	0	1	2	1	
16 Encephalitis, West Nile Infection	0	6	3	2	3	
17 Foodborne - C. perfringens	0	0	0	0	0	
18 Foodborne - Staphylococcal	0	2	9	4	9	
19 Foodborne Other	0	0	1	0	1	
20 Foodborne Poison	0	3	1	0	1	
21 Haemophilus influenzae	28	203	150	180	150	
22 Hantavirus	0	0	0	0	0	
23 Hemolytic Uremic Syndrome	0	6	5	4	5	
24 Hemorrhagic Fever Virus infection	0	0	0	0	0	
25 Hepatitis A	3	29	43	52	43	
26 Hepatitis C - Acute	4	159	122	202	122	
27 Influenza death (<18 years old)	1	8	2	1	2	

The Old Way

- Multiple static tables
- Data by county was not always available
- Data was not analyzable
- No way to visualize data

Reportable Communicable Diseases - NC: Reported Cases and Annual Incidence Rate per 100,000 population, 1991-2004

DISEASE	1991		1992		1993		1994		1995		1996		1997		1998		1999		2000		2001		2002		2003		2004			
	CAS.	INC.	CAS.	INC.	CAS.	INC.	CAS.	INC.	CAS.	INC.	CAS.	INC.	CAS.	INC.	CAS.	INC.	CAS.	INC.	CAS.	INC.	CAS.	INC.	CAS.	INC.	CAS.	INC.	CAS.	INC.		
Amebiasis	16	0.24	9	0.13	11	0.16	19	0.27	8	0.11	7	0.1	10	0.13	7	0.09	NR													
Anthrax																														
Blastomycosis	3	0.04	2	0.03	12	0.17	14	0.2	13	0.2	9	0.12	6	0.08	2	0.03	NR													
Botulism			1	0.01									1	0.01																
Botulism infant															2	0.03	2	0.03												
Botulism other																			1	0.01										
Brucellosis	5	0.07	19	0.28	27	0.39	3	0.04	3	0.04	2	0.03	3	0.04	1	0.01			3	0.04	2	0.02	2	0.02	1	0.01				
Campylobacteriosis	557	8.26	655	9.64	738	10.69	794	11.39	705	9.84	850	8.88	529	7.11	492	6.52	544	7.1	533	6.62	480	5.86	683	8.2	839	9.97	618	7.24		
ChD @																														
Cryptosporidiosis #															5#	0.07	35	0.46	28	0.35	31	0.38	40	0.48	57	0.68	76	0.89		
Cyclosporiasis																														
Dengue			1	0.01	1	0.01			1	0.01			6	0.08				1	0.01	3	0.04	2	0.02	3	0.04	3	0.04	5	0.06	
E. coli O157:H7 Infection							6*		45	0.63	47	0.64	74	1	186	2.47	74	0.97	93	1.16	59	0.72	244	2.93	38	0.45	158	1.85		
Ehrlichiosis Granulocytic #																			2	0.02					1	0.01	2	0.02	10	0.12
Ehrlichiosis Monocytic #																			12	0.16	11	0.14	11	0.13	13	0.16	28	0.33	35	0.41
Encephalitis	35	0.52	26	0.38	31	0.45	45	0.64	21	0.29	35	0.47	25	0.34	23	0.3	NR													
Encephalitis, California #																			10	0.13	7	0.09	9	0.11	13	0.16	26	0.31	13	0.15
Encephalitis, Eastern Equ #																			2	0.02										
Encephalitis, West Nile V. @																														
Foodborne: Clostrid. perfr.	6	0.09	2	0.03	98	1.42					1	0.01	1	0.01	2	0.03	47	0.61	1	0.01			1	0.01	1	0.01	2	0.02	4	0.05
Foodborne: other	12	0.18	11	0.16	27	0.39	27	0.39	12	0.17	24	0.33	110	1.48	18	0.24	7	0.09	11	0.14	9	0.11	281	3.37	35	0.42	571	6.89		
Foodborne: Staphylococ	3	0.04	5	0.07	2	0.03	3	0.04	4	0.06	2	0.03	26	0.35	10	0.13	58	0.76	2	0.02	2	0.02	75	0.9	85	1.01	9	0.11		
Haemophilus Influenzae	168	2.49	64	0.94	23	0.33	32	0.46	34	0.47	26	0.36	21	0.28	24	0.32	36	0.47	23	0.29	50	0.61	33	0.4	41	0.49	62	0.73		
Hepatitis A	163	2.42	110	1.62	94	1.36	145	2.08	111	1.55	204	2.79	211	2.84	128	1.7	167	2.18	154	1.91	242	2.96	209	2.51	126	1.5	105	1.23		
Hepatitis B, Acute	563	8.35	431	6.34	315	4.56	291	4.17	311	4.34	337	4.6	265	3.56	243	3.22	224	2.92	256	3.18	221	2.7	233	2.79	163	1.94	182	2.13		
Hepatitis B Carrier \$	705		755		681		652		639		713		636		606		735		636		650		896		1022		756			
Hepatitis B Perinatal																														
Hepatitis, non A-non B	114	1.69	91	1.34	80	1.16	59	0.85	64	0.89	46	0.63	51	0.69	26	0.35	NR													
Hepatitis C, Acute #																			33	0.43	20	0.25	22	0.27	29	0.35	13	0.15	12	0.14
Hemol. Urem. Syn. / TTP #																			10	0.13	2	0.02	2	0.02	2	0.02	3	0.04	10	0.12
Influenza Pediatric Death \$\$	NR		NR		NR		NR		NR		NR		NR		NR		NR		NR		NR		NR		NR		NR			
Kawasaki Syndrome	20	0.3	15	0.22	8	0.12	14	0.2	14	0.2	15	0.2	8	0.11	7	0.09	NR													
Legionellosis	27	0.4	48	0.71	27	0.39	28	0.4	34	0.47	12	0.16	14	0.19	14	0.19	15	0.2	16	0.2	11	0.13	13	0.16	42	0.5	40	0.47		
Leptosy																														
Leptospirosis			2	0.03	1	0.01	1	0.01																						
Listeriosis #																														
Lyme disease	73	1.08	68	1	86	1.25	77	1.1	84	1.17	66	0.9	34	0.46	63	0.84	74	0.97	47	0.58	41	0.5	137	1.64	156	1.85	122	1.43		
Malaria	15	0.22	34	0.5	145	2.1	12	0.17	20	0.28	30	0.41	21	0.28	30	0.4	36	0.47	36	0.45	19	0.23	22	0.26	25	0.3	23	0.27		
Measles	44	0.65	24	0.35	1	0.01	3	0.04			2	0.03	2	0.03	1	0.01														
Meningococcal Disease	59	0.86	87	1.28	67	0.97	97	1.38	86	1.2	79	1.08	97	1.3	59	0.78	49	0.64	39	0.48	63	0.77	35	0.42	37	0.44	37	0.43		
Meningitis, Pneumococcal	49	0.73	40	0.59	48	0.7																								
Meningitis, Viral	341	5.06	232	3.41	273	3.95																								
Mumps	269	3.99	219	3.22	231	3.35																								
Poliomyelitis							1	0.01																						

Why We Made the Switch

North Carolina Electronic Disease Surveillance System

NC EDSS north carolina
electronic disease surveillance system

North Carolina
Electronic Disease Surveillance System

NC EDSS News

NCEDSS Production Environment
NCEDSS is operating normally.

Welcome to the North Carolina Electronic Disease Surveillance System (NC EDSS), a secure site for North Carolina healthcare workers. NC EDSS is provided by the [North Carolina Division of Public Health](#), a division of the [North Carolina Department of Health and Human Services](#).

[+ User Privacy - NOTICE](#)

[+ Use Policy](#)

[+ Quick Help](#)

LOGIN

Username:

Password:

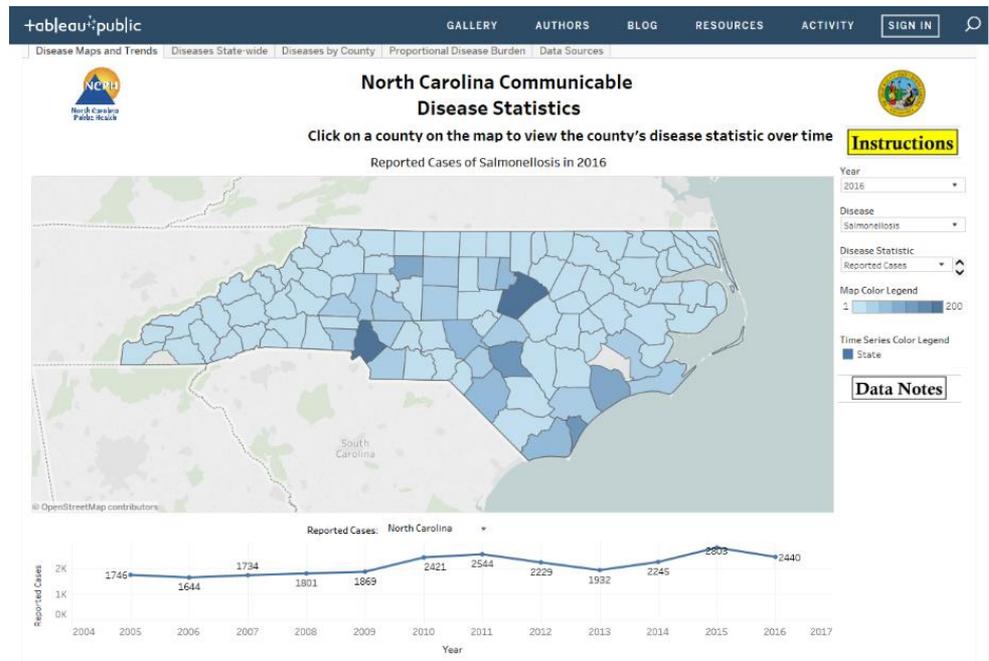
Application: **Main**

[Reset password](#)

- NC EDSS limitations
 - Producing visualizations
 - Data extraction
- Facilitate data requests

Features of the Data Dashboard

- Longitudinal view of data
- Extractable data
- More meaningful
- Publicly available
- Interactive visualizations



Reviews From the Field

- “We get a lot of data requests and the time it takes to fulfill them becomes burdensome. Now that we have Tableau we direct these individuals to the website and it saves everyone time.”

*-Nicole Lee, MPH
State Foodborne Epidemiologist*

- “I just have to say that this is THE GREATEST THING EVER!!!!!!!!!!!!!! Every year we have to present a CD report to our board of Health and I am loving this website. It will be wonderful to be able to actually show disease proportion for our county versus the state.”

*-Frances Vick, RN
Communicable Disease Nurse*

- “This is a thing of beauty! ...There is a wealth of information here, and the displays are great. I especially love love love the proportional disease burden figures! (Now that is something only a public health person would say.) I am proud of you all, and grateful that you are still doing everything you can to protect the health of everyone in my state.”

*-Dr. Megan Davies, MD
Former State Epidemiologist*

Demonstration of the Dashboard

<http://epi.publichealth.nc.gov/>

Questions? Comments? Concerns?

Email us!

Tableau.CDB@dhhs.nc.gov

